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WASHINGTON, D. C. RECEIVED

August, 1937.

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U. S. Department of Agriculture

Accidents.

Safety for the farm. Arkansas Farmer. v. 39, no. 19. July, 1937.
p. 6-7.

Agriculture.

Agricultural conservation 1936. A report of the activities of the Agricultural adjustment administration ... from January 1, 1936, through December 31, 1936. Washington, U.S. Govt. print. off., 1937. 200 p. United States Department of Agriculture. Agricultural adjustment administration.

Agricultural statistics 1937. United States Department of Agriculture. Washington, D.C., U.S. Govt. print. off., 1937. 486 p.

How industry may assist in agricultural progress and prosperity. By Dr. Ralph E. Flanders. Agricultural Engineering. v. 18, no. 7. July, 1937. p. 305-306, 310. Under proper conditions it would seem that industry can assist agriculture in following ways: 1. By making among industrial population better market for farmer's products. 2. By increasing output and decreasing price, or at least preventing increase of price of things farmer buys. 3. By furnishing profitable employment in industry to surplus populations now dependent on agriculture.

Price outlook for major crops. By C.S. Burton. Magazine of Wall Street. v. 60, no. 5. June 19, 1937. p. 298-299, 330. Farmer's purchasing power is major factor in current business prospect.

Types of farming and farm business studies in South Carolina. By J.L. Fulmer. Clemson, South Carolina, 1937. p. 91. South Carolina. Agricultural experiment station. Bulletin 310.

Agricultural Engineering.

Agricultural engineering; a selected bibliography. By Dorothy W. Graf. U.S. Department of Agriculture. Bureau of Agricultural Engineering. Washington, D.C., 1937. 373 p.

Thermometers and thermostats. By R.U. Blasingame. Agricultural Engineering. v. 18, no. 7. July, 1937. p. 293-295. Purpose of paper is to stress importance of paying more attention to human element in training men without minimizing importance of technical training. 300621
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Air Conditioning.

Summer comfort at low cost. Popular Mechanics. v. 67, no. 6. June, 1937. p. 826-829, 156A, 160A-162A.

Air Conditioning. (Cont'd)

Summer comfort from home-made air cooler. By L.H. Mitchell. Electrical World. v. 108, no. 1. July 3, 1937. p.80. Cooler consists of wood box which is made to fit tightly in lower half of window. Outer end of this box is fitted with excelsior pad held in place by chicken wire. Tin trough, perforated to spread across top of excelsior pad, and good-sized electric fan complete material required. Small amount of water, admitted under tin trough, moistens excelsior. Fan draws air through moist excelsior and forces it into room; in this manner, the room temperature may be lowered 10 to 15 degrees.

Alcohol Fuel.

Wider marketing of "alky" blends soon, predicted. National Petroleum News. v. 29, no. 22. June 2, 1937. p. 17, 28. Evidence that lowly sweet potato, as well as corn, barley, oats, rice, tye, sorghum, grain, wheat and girasole, may become available as source of alcohol for blends of motor fuel, was emphatically "shown" by exponents of "alky-gas" at Third Dearborn Conference of Agriculture, Industry and Science. Conference held its three-day session here May 25-27. Additional evidence was given, purporting to show that alcohol blends can be made to sell at same price as gasoline of equal anti-knock value, and that they will provide superior motor fuel and at lower cost per mile traveled.

Blasting.

Blasting with safety. By W.A. Rowlands. Agricultural Leaders' Digest. v. 18, no. 4. May, 1937. p. 18, 20.

Building Materials.

Plywood for walls and ceilings applied with invisible joints. Popular Mechanics. v. 67, no. 4. April, 1937. p. 487. Instead of covering joints with battens, neat, narrow molding is laid in flush to surface, breaking wall into decorative panels. These are available in random or uniform width planks, rectangular or square tile effects. Three-ply Douglas fir is used. Rabbeted edge is nailed to wall and molding applied with brads or glue.

Up to 20 tons of steel used on average farm. Farm Machinery and Equipment. no. 1842. June 15, 1937. p. 30. To equip 150-acre grain and dairy farm with full complement of agricultural implements and equipment made of steel would require nearly twenty tons of steel, according to American Iron and Steel Institute. Almost 15,000 pounds of steel would be used in fencing farm, if all-steel fence were used, while more than 21,000 pounds would consist of steel in agricultural implements, both machinery and hand tools, suggested by farm authorities as ideal equipment for 150-acre farm raising principally grains and potatoes.

Bull Pens.

Safety bull pen. By V.S. Peterson and Earl N. Schultz. California Cultivator. v. 84, no. 10. May 8, 1937. p. 360-361.

Cisterns.

Water supplies for suburban and country homes; cistern supplies. Richmond, Va., 1935. 11 p. Virginia. Department of Health. Health Bulletin. v. 27, no. 11.

Corrosion.

Corrosion tests of metals and alloys in spray mixtures. By E.M. Dieffenbach. Agricultural Engineering. v. 18, no. 7. July, 1937. p. 301-302.

Windmills protect pipelines from corrosion. Agricultural Engineering. v. 18, no. 7. July, 1937. p. 295. By simple procedure of reversing current by impressing small voltage from outside source this electrolytic corrosion is stopped, pipe becomes receiving end - the cathode - and is protected by layer of hydrogen formed at that point. (Industrial Bulletin of Arthur D. Little, Inc.)

Cotton Machinery.

Cotton picker covers half an acre per hour. Popular Mechanics. v. 67, no. 6. June, 1937. p. 818. Known as single-row picker, machine is provided with revolving cylinders between which cotton plants pass as picker moves along rows. From each cylinder protrude 240 spindles, 480 in all, each of which has numerous tiny hooks or barbs that catch lint. Cotton is removed from spindles and passed to cleaning equipment placed to left of operator driving tractor. Picker, which can be made to cover two rows at time, will undergo further tests before being placed on market. Single-row machine does as much work as twenty to twenty-five human workers on land yielding one-half bale per acre and as much as 100 workers on land producing two bales per acre.

Dams.

Dams in South Dakota; a preliminary report. Brookings, S. D., South Dakota State planning board, 1937. 179 p. Mimeographed.

Specimen plans and specifications for small earth dams for guidance of county surveyors in the approval of applications for the construction of small reservoirs pursuant to Senate Bill no. 255, Session laws 1937. Denver, Colorado, Department of Water Resources, 1937. 12 p.

Thin-core high earth dam. By Orman M. Strange. Engineering News-Record. v. 119, no. 5. July 29, 1937. p. 195-199. High clay content of material selected for core of Ralston Creek Dam permits unusually thin central section but requires exceptional care in construction.

Diesel Engines.

Diesel engines in trucks. By E.B. Bachman. S.A.E. Journal. v. 40, no. 5. May, 1937. p. 173-177. Analysis of reports on operation of some 30 of these units both in East and on West Coast. Discussion covers general operating characteristics of these units together with further study of comparison between two Diesel units and gasoline unit from basis of operating cost.

Drainage.

Drainage basin problems and programs. National resources committee. December, 1936. Washington, D.C., U.S. Govt. print. off., 1937. 540 p.

Driveways.

Construction of private driveways. By David M. Beach. Washington, D.C., 1937. 30 p. U.S. Department of Agriculture. Miscellaneous publication no. 272.

Electric Service, Rural

Electric service for your farm. Chattanooga, Tenn. Tennessee Electric Power Company, n.d. 35 p.

X-construction on rural power lines. By D.S. Young. Electrical World. v. 108, no. 1. July 3, 1937. p. 52-53. Portland subsidiary, after sixteen years, finds construction easy, costs low and the performance gratifying.

Electric Wiring.

Farm wiring. By Harold H. Beaty. Ames, Iowa. 11 p. Iowa State College. Agricultural extension service. A.E. -133 (Revised). Mimeographed.

Farm wiring. By R.R. Parks. Urbana, Ill., 12 p. Illinois university. Agricultural extension service. AEng -56. Mimeographed.

Farmstead wiring. By J. Romness and L.P. Zimmerman. St. Paul, Minn., 1936. 16 p. Minnesota university. Agricultural extension division. Special bulletin 179. Purpose of publication is to assist prospective user of electricity in choice of proper materials and methods for wiring buildings on farm.

Electricity-Distribution.

Niagara Hudson power in drive fully to electrify rural areas. Electrical World. News issue. v. 108, no. 4. July 24, 1937. p. 294. Builds 753 miles of line and adds 2,734 customers in six months.

Electricity-Distribution. (Cont'd)

Status of rural electrification. By D.E. Karn. Electrical World. v. 107, no. 23. June 5, 1937. p. 77. National rural electrification policy for the utilities advised. Would define relations with other utilities and cooperatives and customers. Load building seen as educational job directed at the farmer.

2,000 rural miles in 12 months. By P.T. Montfort. Electrical World. v. 108, no. 3. July 17, 1937. p. 204-206, 264. With low-cost lines, Texas Power & Light reaches 10,000 customers in 1936 - Utilizes cost and revenue surveys, adds load quickly, marshals co-operative selling aids.

Electricity in the Home.

Dust caught in trap "baited" with electricity. Popular Mechanics. v. 67, no. 2. February, 1937. p. 183.

Home that runs itself. Popular Mechanics. v. 67, no. 2. February, 1937. p. 242-245. Part II.

Saves money with all-electric service. By H.N. Wells. Electrical World. v. 108, no. 1. July 3, 1937. p. 41-42. Present cost less than was spent for electricity, gas, ice and coal for kitchen range.

Electricity on the Farm.

Electrification of American agriculture. By E.A. White. Agricultural Engineering. v. 18, no. 7. July, 1937. p. 303-304. Situation may be briefly summed up as follows: 1. Electrical idea is established in American agriculture. 2. At present time rate of increase in farms served is highest ever attained. 3. Use of electricity per farm is increasing at rate comparable with other fields, and this situation gives every promise of continuing. 4. Potential possibilities are far from realized. 5. Changes to come from further mechanization of agricultural operations are far-reaching and deserve more fundamental attention than has generally been accorded them. 6. Inventor, engineer, scientist will continue to search for improvements, new ideas, new developments.

Electrification of farms varies widely. Electrical World. v. 108, no. 1. July 3, 1937. p. 53. Table gives number of farm customers and per cent electrification.

Electricity on a poultry farm. By Ralph Nicklin. American Agriculturist. v. 134, no. 12. June 5, 1937. p. 1, 19.

"101 uses" for electricity on the farm; Handbook of information on the uses and cost of rural electric power. Dallas, Tex., Texas Power and Light company, 1936. 31 p.

Electricity on the Farm. (Cont'd)

Rural electrification. By R.R. Parks. Urbana, Ill., 7 p.
Illinois university. Agricultural extension service. AEng. 44.
Mimeographed.

Virginia dairy farm transformed by electricity. By S.R. Winters.
Hoard's Dairyman. v. 82, no. 6. March 25, 1937. p. 178, 198.

What does electric current cost? Electricity on the Farm. v. 10,
no. 8. August, 1937. p. 26. Table gives current consumption
for various farm appliances.

Erosion Control.

Harnessing the ups and downs of dairy land. Hoard's Dairyman. v. 82,
no. 6. March 25, 1937. p. 177, 201.

Man-made sand dunes saving Carolina seashore. Science News Letter.
v. 31, no. 845. June 19, 1937. p. 389-390. Men are erecting
brush fences which do same kind of job with sand that familiar snow
fences of north do for snow. Brush, gathered from nearby areas, is
nailed vertically on wooden framework and sandfence thus constructed.
Fence is placed usually at right angles to the prevailing winds and
favored type of placement is in reverse-curve, wavy line running down
beach. Soon sand has been deposited in a low mound until it covers
fence. Then work is repeated by placing two fences, roughly parallel,
at borders of the first sand dune. Higher grows dune and wider its
base. Other sand fences are added as needed. Final step is to plant
native grasses in dune to hold it firmly and eventually native trees
will be planted on top to make it permanent.

Management and use of agricultural lands, with special reference to
erosion control. By Noble Clark. Agricultural Engineering. v. 18,
no. 7. July, 1937. p. 297-300.

Evaporation.

Evaporation studies. By J.D. Wilson. I. Survey of evaporation and
light values in greenhouses. Wooster, Ohio, 1937. p. 87-97.
Ohio. Agricultural experiment station. Bimonthly bulletin. v. 22,
no. 186.

Farm Buildings.

Use foresight in farm building. Idaho Farmer. v. 55, no. 12. June
10, 1937. p. 333. Plan for possible change in use.

Why build better farm buildings. By William Boss. Agricultural
Engineering. v. 18, no. 7. p. 307-310. Reasons for building
better farm buildings: 1. To help satisfy man's natural desire for
better things in lives of himself and his children. 2. To more fully

Farm Buildings. (Cont'd)

meet our continuous need for shelter for family, livestock, equipment, and products. 3. To obtain economic returns that come from durable, long-time service construction. 4. To more completely fulfill man's obligations in "controlling forces and utilizing materials of nature for benefit of man." 5. To increase value of the farm. 6. To make provision for farmer to devote some of his own energy in helping to increase value of his farm. 7. To provide work for unemployed in community. 8. To provide employment for common labor and workers in structural materials, and thus help to maintain balance between agricultural and industrial workers. 9. To help maintain reasonable balance of our accumulating wealth which consists of both property and money. 10. To keep our money in circulation.

Farm Layouts.

Arranging the buildings in the farmstead. By Ralph L. Patty.
Brookings, S.D. 1937. 16 p. South Dakota State College.
Extension service. Extension Circular 363.

Farm Machinery and Equipment.

"Citrus" California surprises in agricultural eminence. By Edwin A. Hunger. Harvester World. v. 28, nos. 5-6. May-June, 1937. p. 10-12, 14.

Farm machinery inventory. Maybe you can get along without it but you'll do much better with it. By L.D. Klemmedson. Arizona Producer. v. 16, no. 3. April 15, 1937. p. 21.

Farm machinery trends in Europe. By R.B. Gray. Agricultural Engineering. v. 18, no. 7. July, 1937. p. 318-320.

Graphic summary of farm machinery, facilities, roads, and expenditures. (Based largely on the census of 1930 and 1935). By O.E. Baker. Washington, D.C., 1937. 33 p. U. S. Department of Agriculture. Miscellaneous publication no. 264.

International trade in agricultural machinery. Rome, Italy, Institut International d'Agriculture, 1936. 100 p.

Mechanical blocking has come to stay. By Lyman Andrews. Through the Leaves. v. 25, no. 4. July, 1937. p. 125-127. Dixie Cotton Blocker, invented to block cotton in South, was found to do good work as mechanical beet blocker. Its performance on both ridge-planted and flat-planted beets, its moderate cost and ease of draft and adjustments, were studied.

New combines harvest many crops. Farm Machinery and Equipment. no. 1842. June 15, 1937. p. 5-6. Efficiency of modern tractor enlarges market for combines among Mid-west farmers - augmented also by the increased acreage of soy beans.

Farm Machinery and Equipment. (Cont'd)

New method of seed corn drying. By Mrs. C.E. Trover. Electricity on the Farm. v. 10, no. 8. August, 1937. p. 9-11.

Portable seed cleaning and treating equipment. By C.E. Skiver. Lafayette, Ind., 1937. 10 p. Purdue university. Agricultural experiment station. Circular no. 230.

Rationalizing Swedish agriculture. By Olle Busch. Anglo-Swedish Review. June, 1937. p. 186-189. Illustrates grass-drying plant with output of $1\frac{1}{2}$ tons per hour.

Servicing the horse-drawn cultivator. By L.W. Hurlbut. Implement and Tractor. v. 52, no. 14. July 10, 1937. p. 21, 25.

Still growing after 70 years. Implement and Tractor. v. 52, no. 16. August 7, 1937. p. 15, 36. History of Loudon machinery company.

Up to date hauling equipment for the farm. By Research Dept. Farm Equipment Institute. Farm Implement News. v. 58, no. 15. July 29, 1937. p. 28.

West's hope in the lister. Implement and Tractor. v. 52, no. 16. August 7, 1937. p. 13, 34, 36.

"Z" - 140 fewer motor parts - Serviced from a milk stool. Farm Implement News. v. 58, no. 15. July 29, 1937. p. 18, 20, 22.

Farm Houses.

Pennsylvania farm house with modern addition. Architectural Record. v. 82, no. 2. August, 1937. p. 69-71.

Fertilizer Placement.

Recent developments relative to fertilizer placement. By G.A. Cumings. Reprint from Commercial fertilizer 1937 year book. 8 p.

Fireplaces.

Camp stoves and fireplaces. By A.D. Taylor. Washington, D.C. U.S. Govt. print. off., 1937. 91 p. U.S. Department of Agriculture. Forest service.

Floods and Flood Control.

Flood control by reservoirs. By Arthur E. Morgan. Engineering News-Record. v. 119, no. 7. August 12, 1937. p. 263-268. Reservoirs in the lower Tennessee and Ohio Valleys are proposed as a further step in the ultimate flood protection for the lower Mississippi.

Floods and Flood Control. (Cont'd)

New England flood plans analyzed. Engineering News-Record. v. 119, no. 24. July 22, 1937. p. 114-146. Well-rounded study advocated to determine the maximum possible use of reservoirs proposed for the Connecticut and Merrimack river valleys.

Water to the sea. By Ben Hibbs. Country Gentleman. v. 107, no. 6. June, 1937. p. 7-8, 69-71.

Flow of Water and Gases.

Flow of water around 180-degree bends. By David L. Yarnell and Sherman M. Woodward. Iowa City, Iowa. 1937. 64 p. Iowa university. Studies in Engineering. Reprint no. 3.

Fluid-flow analyzer; a small inexpensive device that is simple to operate. By H.L. Parr. Mechanical Engineering. v. 50, no. 6. June, 1937. p. 437-439.

Fruit-Packing.

Packing Minnesota fruits for market. By J.D. Winter, W.H. Alderman, and Warren C. Waite. St. Paul, Minn., 1937. 16 p. Minnesota university. Agricultural extension division. Special bulletin 184.

Fuels.

Agricultural engineers talk fuels. Implement and Tractor. v. 52, no. 14. July 10, 1937. p. 14-16.

Comparative tests of fuels in low-compression tractors. By E.L. Barger. Agricultural Engineering. v. 18, no. 7. July, 1937. p. 311-314.

Glass.

Future of glass in the building field; some little-known facts about new uses for an ancient product. By A.E. Marshall. Civil Engineering. v. 7, no. 8. August, 1937. p. 566-567. Many interesting facts about present and future of this material in building construction, together with data on strength and conductivity of its various forms, are presented.

Greenhouses.

Sash greenhouses. By J.H. Beattie. Washington, U.S. Govt. print. off., 1937. 8 p. U.S. Department of Agriculture. Leaflet no. 124.

Hay Handling.

Time of cutting hay, and losses entailed during haymaking. By S.J. Watson, W.S. Ferguson and E.A. Horton. Journal of Agricultural Science. v. 17, part 2. April, 1937. p. 224-258.

Heating.

American practice in panel heating. By Leon L. Munier. Heating, Piping and Air Conditioning. v. 9, no. 7. July, 1937. p. 424-426. Describes how method is applied in United States and how panel heating practice here varies from that abroad.

Calculated over-all coefficients for walls with air space insulation. By F.B. Rowley. Heating, Piping and Air Conditioning. v. 9, no. 7. July, 1937. p. 444-446.

Design of automatic heating systems for low-cost residences. By Robert K. Thulman. Heating and Ventilating. v. 34, no. 6. June, 1937. p. 51-56.

Hotbeds.

Electric soil heating for hotbeds. By T.E. Hinton and J.H. MacGillivray. Lafayette, Ind., 1936. 16 p. Purdue university. Agricultural experiment station. Circular no. 226.

Houses.

Architectural service for low-cost homes. Engineering News-Record. v. 119, no. 6. Aug. 5, 1937. p. 210. Under the auspices of the Federal Home Loan Bank Board plan is designed to give architectural advice and supervision on mass production basis on homes costing less than \$7,500 under sponsorship of lending institutions providing funds for construction. Under operation of plan, home-builder of small or moderate means will be able to approach lending institution and gain full home service. At modified fee, made possible by quantity construction, he will be given architectural advice on designing home and supervision of construction to insure proper materials and workmanship. On completion he will receive federal certificate of registration which will guarantee sound construction of building and increase resale value of property. At same time lending institution will receive added protection for its mortgage.

Homes assembled like autos would cost two-thirds less. Popular Mechanics. v. 67, no. 2. February, 1937. p. 192. Mass production house will not be possible until its units can be manufactured complete in factory, including all wiring, switching, plumbing and service items. Cellar will have to go, and foundation. Such homes need not be uniform, but they must be made of interchangeable parts to be assembled at choice of owner.

Insulation.

Insulation - Air conditioning. By R.E. Backstrom. American Builder. v. 59, no. 7. July, 1937. p. 86, 88, 90, 92, 94.

Insulation. (Cont'd)

New insulating sheathing solves air-conditioning problem. Popular Mechanics. v. 67, no. 2. February, 1937. p. 187. Resists moisture and reduces damage to walls. Air conditioning introduces additional moisture into home or other building so equipped, condition against which product is protected by coating of asphalt on both sides and on edges. In addition, one side is specially treated to give even greater protection.

Thermal insulation. By Frank B. Rowley. Ice and Cold Storage. v. 40, no. 471. June, 1937. p. 83. Characteristics of materials of construction.

Use of insulation under high humidity conditions. By L.D. Edgar. Ice and Refrigeration. v. 93, no. 2. August, 1937. p. 123-124. Results of investigation upon storage of white potatoes in northern Maine.

Value of insulation and air conditioning. California Cultivator. v. 84, no. 13. June 19, 1937. p. 451, 459.

Irrigation.

Electric power for irrigation in humid regions. Chicago, Ill., 1937. 23 p. Committee on the relation of electricity to agriculture. C.R.E.A. Bulletin v. 7, no. 2.

Irrigating a one-acre garden. By Ralph L. Patty. Brookings, S.D., 1937. 4 p. South Dakota State College. Extension service. Extension leaflet no. 366.

Irrigation of citrus. By Karl Harris. Arizona Producer. v. 16, no. 3. April 15, 1937. p. 28-29. Measure fruit frequently for it shows when trees are in need of water.

Modern rice-irrigation system. By W.B. Gregory. Mechanical Engineering. v. 59, no. 5. May, 1937. p. 359-360.

Progress of irrigation in North China; modern structures replace primitive means for distributing water. By O.J. Todd. Civil Engineering. v. 7, no. 8. August, 1937. p. 552-556. Four of larger and more important of projects included are discussed. Apart from design questions involved, description of construction methods will be of particular interest as illustrating contrast between labor conditions in China and in the United States.

Rain when and where you want it. By John J. Gilliat. California Cultivator. v. 84, no. 11. May 22, 1937. p. 394-395.

Revenue report on the irrigation works of the Ajmer-Merwara district for the year 1935-36. By the Public works department of the Ajmer-Merwara district, India. Simla, India. Government of India press, 1937. 18 p.

Irrigation Water.

Manure in water. Arizona Producer. v. 16, no. 8. July 1, 1937.
p. 5. Uses irrigation system to spread barnyard fertilizer.

Water for profit. By D.W. Rice. Electrical Ruralist. v. 1, no. 4.
August, 1937. p. 16. Overhead irrigation system increases
yield, quality, profit.

Land Utilization.

Generalized land-use suggestions for Ohio. By J.S. Cutler. L.H.
Paschall, and G.W. Conroy. Wooster, Ohio, 1937. p. 113-125.
Ohio. Agricultural experiment station. Bimonthly Bulletin no. 187.

Some problems in adjusting land use. By J.S. Cutler, L. H. Paschall
and G.W. Conroy. Wooster, Ohio, 1937. p. 97-104. Ohio. Agri-
cultural experiment station. Bimonthly bulletin. v. 22, no. 186.

Lighting.

Better light for Maryland farm homes. By Albert V. Krewatch. College
Park, Md., 1937. 5 p. University of Maryland. Extension service.
✓ Rural electrification series no. 3.

Lubrication.

Advantages of pressure lubrication. Farm Machinery and Equipment.
no. 1842. June 15, 1937. p. 22. Pressure; May be installed
on any machine; Safety; Time; Cleanliness.

Diesel lubrication - a new approach. By E.H. Hillman. Power Plant
Engineering. v. 41, no. 8. August, 1937. p. 469-470. Part II.
Lubricant selection must be based on a compromise between conflicting
requirements and services.

Oil for your car. By Thomas E. Stimson, Jr. Popular Mechanics.
v. 67, no. 6. June, 1937. p. 840-843, 135A-136A, 138A.

Miscellaneous.

Fourth annual report of the Federal home loan bank board covering opera-
tions of the Federal home loan banks Savings and loan division, Home
owners' loan corporation, Federal savings and loan insurance corpora-
tion for the period July 1, 1935, through June 30, 1936. Washington,
D.C., U.S. Govt. print. off., 1937. 144 p.

Improved personnel in government service. Spoils and democracy; the
development of a professional public service; new techniques of
public personnel administration; the reform movement. With supple-
ment. Edited by Luther Gulick. Annals of the American Academy
of Political and Social Science. v. 189. January, 1937. 277p.

Miscellaneous. (Cont'd)

Report on progress of the Works program, March 1937. Washington, D.C., Works Progress Administration, n.d. 127 p.

Report on progress of the Works program June, 1937. Washington, D.C., Works Progress Administration, n.d. 117 p.

Technological trends and national policy, including the social implications of new inventions. Washington, U.S. Govt. print. off., 1937. 288 p. Report of the Subcommittee on Technology to the National Resources Committee.

Things are not what they seem. Part I. By H. W. Magee. Popular Mechanics, v. 67, no. 6. June, 1937. p. 809-816, 128A, 130A.

Paints and Painting.

Handbook of painting. New York, N.Y., National Lead Company. 1937. 156 p.

Structural metal painting. By A.H. Sabin and F.M. Hartley. New York, N.Y., National Lead Company, 1934. 160 p.

Plows and Plowing.

Find new use for "Chisel" plow. Idaho Farmer. v. 55, no. 10. May 13, 1937. p. 273. Proves useful in preventing soil erosion.

Good plows do better work. By Research Department, Farm equipment institute. Chicago, Ill. Implement and Tractor. v. 52, no. 14. July 10, 1937. p. 28.

Potatoes.

Potato pointers. By A.G. Tolaas. St. Paul, Minn., 1937. 55 p. Minnesota university. Agricultural extension division. Special bulletin 182.

Potato protection for small acreages. By J.H. Muncie and C.B. Dibble. East Lansing, Mich., 1937. Michigan state college. Extension division. Extension bulletin no. 181.

Poultry Houses and Equipment.

Brooding chicks artificially. By J.E. Humphrey and J.B. Kelley. 4th revision. Lexington, Ky., 1936. 30 p. Kentucky university. Agricultural extension division. Circular no. 157.

How to build a home-made brooder. Louisiana Farm Bureau News. v. 14, no. 4. April 15, 1937. p. 6.

Poultry Houses and Equipment. (Cont'd)

Poultry houses for South Dakota. By Ralph L. Patty. Brookings, S.D., 1937. 32 p. South Dakota State College. Extension service. Extension circular 362. Poultry house plans described were designed from study of plans from other states, trials of houses on College Poultry Farm. House is designed for rigorous climate of north central section of United States. In design of this house, cost item has been kept in mind constantly. Better house could be designed and built but not for reasonable cost of this one. This house is designed for majority of South Dakota farms and has already been built on very large number of them. Slightest change in plan of this house will probably make inside conditions unsatisfactory in winter.

Tests of chick brooders. By E.T. Swink. Blacksburg, Va., 1936. 16 p. Virginia. Agricultural experiment station. Bulletin 306. Tests were conducted to determine following points: 1. Fuel consumption of each type of brooder as basis of comparing operating costs under identical brooding conditions. 2. Comparison of brooding results obtained by these methods of brooding. 3. Most satisfactory and practical type of electric brooder for use on Virginia farms.

Power Development.

Power development in Russia. Power Plant Engineering. v. 41, no. 8. August, 1937. p. 459-460. Utilization of low grade fuels and improvement in load curves result from development program which increased power consumption almost 900 percent in a decade.

Pumps and Pumping.

Equipping a small irrigation pumping plant. By W.E. Code. Fort Collins, Colo., 1936. 55 p. Colorado. Agricultural experiment station. Bulletin 433.

Rammed Earth.

"Rammed earth". By Ralph L. Patty. Dakota Farmer. v. 57, no. 12. June 5, 1937. p. 321, 326, 328.

Rainfall and Run-off.

On the relation between rainfall and stream flow -III. By Richmond T. Zoch. Monthly Weather Review. v. 65, no. 4. July 15, 1937. p. 135-147.

Run-off summaries for 77 stations up to September 30th, 1935. By A.D. Lewis. Pietermaritzburg, South Africa. Irrigation Department. Hydrographic survey paper no. 4. (Stream measurements.)

Refrigeration.

Modern refrigeration on the farm. California Cultivator. v. 84, no. 13. June 19, 1937. p. 451.

Present knowledge regarding the storage of fruits and vegetables in carbon dioxide gas. Monthly bulletin of Agricultural Science and Practice. v. 28, no. 7. July, 1937. p. 239-249. Storage of fruits in CO₂ gas is relatively recent practice which tends to be more and more extensively used by important fruit producing and exporting countries, especially by United States, Australia and South Africa. It is not suggested that this practice supersedes universally known process of storage by refrigeration, which it only completes, but in view of advantages attributed to this process by many technicians, an objective study of this system in order to ascertain its actual advantages, defects ascribed to same by certain authorities, and finally value of its utilization should be of some interest. Article deals entirely with this aspect.

Steam-jet refrigeration. By J.C. Bertsch. Ice and Refrigeration. v. 93, no. 2. August, 1937. p. 87-90. Design of nozzles, diffusers, complete ejectors, evaporators and make-up regulators. Equations for calculating the dimensions of parts.

Refrigeration of Cars, Trucks, etc.

Conditioning fruits and vegetables. By J.E. Mitchell. Mechanical Engineering. v. 59, no. 5. May, 1937. p.326.

Refrigerator Lockers.

Cold storage locker plant offers modern service. Ice and Refrigeration. v. 93, no. 2. August, 1937. p. 102. Description of new plant erected to provide cold storage locker service in Puyallup, Wash. Fresh meats sold at wholesale.

Farm and community refrigeration. By E.L. Carpenter and Mack Tucker. Knoxville, Tenn., 1936. 63 p. Tennessee. Engineering experiment station. Bulletin no. 12. Takes such topics as value, uses, designs, costs and economical operation of refrigeration and refrigerating equipment in language, so far as possible, familiar to farmers, agricultural agents, and vocational teachers. Value of refrigeration as income producing equipment will be set forth as increasing cash income on perishable products destined for community or city markets and as decreasing cash outgo for foods for farmer's table.

Septic Tanks.

Residential sewage treatment plants. Construction plans and specifications for septic tank and subsurface filter. Des Moines, Iowa, State Department of Health. Division of Public Health Engineering, n.d. 9 p.

Septic Tanks. (Cont'd)

Septic tank and subsurface disposal system for seven persons or fewer. Springfield, Ill., Illinois. Department of Public Health. Division of sanitary engineering, 1936. 3 p.

Septic tank system for home sewage disposal. Topeka, Kans., 1936. 22 p. University of Kansas. Engineering bulletin no. 18, 2d ed.

Septic tanks for suburban and country homes. Richmond, Va., 1936. 16 p. Virginia. Department of Health. Health Bulletin. v. 38, no. 7.

Septic tanks for suburban and country homes; Built in place of concrete septic tanks. Richmond, Va., 1936. 18 p. Virginia. Department of Health. Health Bulletin. v. 28, no. 7. Supplement.

Sewage and Sewage Disposal.

Privies and sewage disposal systems for single dwellings. By Bureau of Engineering. Trenton, N.J., New Jersey. State Department of Health, 1930. 28 p.

Recommended minimum sanitary requirements for the location, construction and protection of approved hand pumped well supplies. Des Moines, Iowa. State Department of Health. Division of Public Health Engineering, 1934. 8 p.

Rural methods of waste disposal. Augusta, Me., 1932. 24 p. Maine. Department of health and welfare. Bureau of Health. Circular no. 104.

Rural sanitation: Sewage disposal and water supply. Sacramento, Calif., 1931. 12 p. California. State Department of Public Health. Special bulletin no. 56.

Sanitary pit privy. Richmond, Va., 1935. 7 p. Virginia. Department of Health. Health Bulletin. v. 27, no. 5.

Sanitary privy. Topeka, Kans., Kansas State Board of Health, 1937. 30 p. University of Kansas. Engineering bulletin no. 19.

Sanitary privy. By Edward D. Rich. Lansing, Mich., 1936. 17 p. Michigan. Department of Health. Engineering bulletin no. 8.

Sanitary sewage disposal. Dover, Del., Delaware. State Board of Health. Division of Sanitation, n.d. 20 p.

Sewage disposal. Hartford, Conn., Connecticut. State Department of Health, 1931. 36 p.

Sewage disposal for country homes. New Orleans, La., Louisiana. State Board of Health. Bureau of Sanitary Engineering, 1934. 8 p.

Sewage and Sewage Disposal.

Sewage disposal for rural dwellings. Columbus, Ohio. 1936. 23 p.
Ohio. Agricultural college. Extension service. Bulletin no. 112.

Sewage disposal for single houses and small institutions. By Edward
D. Rich. Lansing, Mich., 1935. 16 p. Michigan. Department
of Health. Engineering bulletin no. 2.

Sewage disposal for the home. Jacksonville, Fla., n. d. 13 p.
Florida. State Board of Health. Bureau of Sanitation. Bulletin
no. 105-E.

Sewage treatment for the rural residence. Indianapolis, Ind.,
1933. 15 p. Indiana. State Department of Commerce and Industry.
Division of Public Health. Bureau of Sanitary Engineering.
Bulletin no. 8.

Suggestions for residential sanitation. Baltimore, Md., Maryland.
State Department of Health. 1937. 26 p.

Water and sewage systems for Florida rural homes. By Frazier Rogers.
Tallahassee, Fla., 1937. 20 p. Florida university. Agricultural
extension service. Bulletin 91.

Water-supply and sewerage systems for public school buildings.
Bismarck, N.D., State Department of Health. Division of Sanitary
Engineering, n. d. 15 p. Mimeographed.

Silos.

Square silo vs. the round. By F.F. Rowell. Dakota Farmer. v. 57,
no. 13. June 19, 1937. p. 358-359.

Soil Testing.

Technique of soil testing as applied by the U.S. Waterways experiment
station to the design of levees and earth dams. By Spencer J.
Buchanan. Civil Engineering. v. 7, no. 8. August, 1937.
p. 568-572. Article describes technique employed there in per-
forming most of more important routine tests, and gives examples
of their use in design of levees and earth dams.

Storage Houses and Cellars.

Inexpensive farm storage cellar. By H.B. White. St. Paul, Minn.,
1937. 1p. Minnesota university. Agricultural extension division.
Agricultural engineering news letter. no. 64.

Strains and Stresses.

Stresses and deflections in loaded rectangular plates on elastic
foundations. By Glenn Murphy. Ames, Iowa, 1937. 52 p. Iowa.
Engineering experiment station. Bulletin 135.

Terracing.

Method for finding terrace cross sections. By Harold W. LeMert and Austin W. Zingg. Agricultural Engineering. v. 18, no. 7. July, 1937. p. 296, 300. Article describes quick, practical method for measuring terrace ridge and channel cross sections with a degree of accuracy sufficient for all practical field purposes. Advantages: 1. Only apparatus is needed that is understood by engineer and farmer alike. 2. Cost of equipment is nominal; and 3. It is possible for either farmer or engineer to check terraces frequently and obtain accurate knowledge of their condition.

Terrace project planning. By C.L. Hamilton. Agricultural Engineering. v. 18, no. 7. July, 1937. p. 315-317.

Tires.

Conquering lister ridges with pneumatic tires. By Edgar V. Collins. Agricultural Engineering. v. 18, no. 7. July, 1937. p. 302. Equipment described in article has proven effective in holding tractor on lister ridges for early cultivation of listed corn. Single tire is used on one side of tractor and is set to center on lister ridge. Dual tire is used on other side and straddles ridge. Using this equipment, it was found that with tractor wheels in lister furrows, front wheels can easily be forced onto ridge by using wheel brakes, and then rear wheels will climb ridges from either side with no difficulty.

Rubber reduces farm costs. Farm Machinery and Equipment. no. 1842. June 15, 1937. p. 23. Rubber tires on farm machinery afford greater power for productive work, higher speed of operation, more economical use of fuel, less rapid depreciation of farm equipment, more flexible operation of machinery, and greater comfort for the operator. Introduction of rubber tires has made it possible to reduce size and cost of tractors.

Tires inflated with water improve tractor operation. Popular Mechanics. v. 67, no. 4. April, 1937. p. 507. Tests have shown such tires provide normal cushion that eliminates virtually all sway and rebound on road, reduce wheel chatter and improve traction. These results are achieved by balancing tires with water instead of using expensive metal wheel weights. Adapter which connects to any garden hose may be used for inflating tires with water. After filling, tires are then filled with air to usual pressure. Pressure tank is available for putting water into tires. In winter, anti-freeze solution is used instead of water.

Tractors.

Cooperative tractor catalog. 22nd annual edition. 1937-1938. Kansas City, Mo., Implement and Tractor, 1937. 328 p.

Tractors. (Cont'd)

How much will a tractor pull? By L.W. Hurlbut. Implement and Tractor. v. 52, no. 16. August 7, 1937. p. 21, 25.

Low-cost tractor serves needs of small farm. Popular Mechanics. v. 67, no. 6. June, 1937. p. 872-873. Instead of low speeds of ordinary tractor, latest version cruises at twenty-five miles per hour between barn and fields. It weighs only 1,650 pounds, but can be loaded to give better traction when pulling is hard. Tractor of this type can be sold for less than \$500, according to inventor. It has variable speed governor, friction drive, battery ignition, starter and lights for night work and is equipped with hand, foot or power brakes on either or both rear wheels. Implement wheels are used.

Making the tractor easier riding. California Cultivator. v. 84, no. 11. May 22, 1937. p. 389. Discusses new type of ridge breaker that makes path smooth for either track-layer or wheel tractors. Since it removes bumps and ridges it makes riding easier and adds to life of tractor by cutting down shocks and strains and thus lessens repair costs. Use of this attachment is not limited to orchard and vineyard tractors; it is being made part of equipment on larger machines which work in open fields. Blades are attached so that they can easily be turned up out of way when they are not needed.

Speed the tractor up - Slow the engine down. By C.W. Smith. Implement and Tractor. v. 52, no. 14. July 10, 1937. p. 20, 25.

Two tractors are better than one. Farm Machinery and Equipment. no. 1842. June 15, 1937. p. 24.

Valuation.

Graphic summary of the value of farm property. (Based largely on the Census of 1930 and 1935). By B.R. Stauber and M.M. Regan. Washington, D.C., 1937. 20 p. U.S. Department of Agriculture. Miscellaneous publication no. 263.

Ventilation.

Ventilation requirements. By C.P. Yaglou and W.N. Witheridge. Heating, Piping and Air Conditioning. v. 9, no. 7. July, 1937. p. 447-450. Part 2.

Walls.

Lane concrete-rib wall. Federal Architect. v. 8, no. 1. July, 1937. p. 47, 58. Gives easy base for exterior facing, almost impervious defense against dampness and highly resistant insulating set-up. Construction consists of thin wall with vertical ribs inside and out, staggered, so that they give structural stability without offering at any point solid concrete from exterior to interior. Moisture and thermal energy have to proceed along devious path to penetrate such wall.

Walls. (Cont'd)

Novel plywood wall units cut costs in Seattle house. American Builder. v. 59, no. 7. July, 1937. p. 80-82, 84. Horn unit is unique in that it permits absolute flexibility of design, length of walls or partitions, and places no restrictions upon size or location of door or window openings. Horn units consist of stock Douglas fir plywood panels, 4' x 8' in size, on back of which are glued four 1-5/8" ribs or studs and extending to within 1-5/8" of each end of panel to allow for floor plate and top plate.

Retaining wall design. By E.A. Menuez. Engineering News-Record. v. 119, no. 7. p. 272-273. Formulas are derived from which base width of gravity retaining walls may be obtained by substitution.

Water, Underground

Groundwater legislation. It must come in Arizona, for prior users must be protected in rights. By G.E.P. Smith. Arizona Producer. v. 16, no. 9. July 15, 1937. p. 8.

Ground-water supplies; Progress report of the Committee on ground-water supplies conference of state sanitary engineers, 1936. Washington, U.S. Govt. print. off., 1937. 24 p. Public Health Reports. Supplement no. 124.

Water Conservation.

Soil and water conservation in the Pacific Northwest. By E.M. Rowalt. Washington, U.S. Govt. print. off., 1937. 59 p. U.S. Department of Agriculture. Farmers' bulletin no. 1773.

Water Supply.

Central valley project ready to go. By Jack Klein. California Cultivator. v. 84, no. 11. May 22, 1937. p. 379, 401.

Colorado river water for California. By Julian Hinds. Civil Engineering. v. 7, no. 8. p. 573-575. Initial aqueduct development now two-thirds complete.

More water for Southern California. California Cultivator. v. 84, no. 11. May 22, 1937. p. 377, 389.

More water from the forests. By D.J. Whitney. California Cultivator. v. 84, no. 11. May 22, 1937. p. 384-385, 401. Subject under discussion is effect of light burning on stream flow and irrigation supplies.

Water Supply, Rural

Maine water supplies. By Elmer W. Campbell, Augusta, Me.,
20 p. Maine. Department of Health and Welfare. Bureau
of Health. Circular no. 105.

Private water supplies. Hartford, Conn., Connecticut
State Department of Health, 1936. 27 p.

Rural water supplies. By Chester Cohen. Austin, Texas,
Texas State Health Department, 1936. 37 p.

Safe water supplies for suburban and rural homes. Doyor, Del.,
Delaware. State Board of Health, n.d. 8 p.

Springs; Properly protected springs walled in with concrete. Tight
cover ditched to divert surface water. Overflow pipe. Richmond,
Va., 1933. 4 p. Virginia. Department of Health. Health
Bulletin. v. 25, no. 5.

Water supply in the home. Jacksonville, Fla., n.d. 18 p.
Florida. State Board of Health. Bureau of Sanitation.
Bulletin no. 104-E.

Weeds.

Perennial weeds and their control. By H.K. Wilson, R.F. Crim,
and A.H. Larson. St. Paul, Minn., 1937. Minnesota university.
Agricultural extension division. Special bulletin 183.

Wells.

Dug, drilled and driven wells. By Carl D. Gross and Clarence W.
Klassen. Springfield, Ill., 1934. 11 p. Illinois.
Department of Public Health. Educational health circular no.
14, revised.

Water supplies for suburban and country homes; Drilled well supplies.
Richmond, Va. 1935. 15 p. Virginia. Department of Health.
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Well water supplies for homes. By Edward D. Rich. Lansing, Mich.,
1935. 18 p. Michigan. Department of Health. Engineering
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Now uses for wood. Popular Mechanics. v. 67, no. 4. April, 1937.
p. 538-541, 144A.

Searching the world for new wood ideas. Popular Mechanics. v. 67,
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